CONSUMER EDUCATION ON THE HEALTH BENEFITS OF RED MEAT - A MULTIDISCIPLINARY APPROACH

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Abstract

This paper first presents food quality trends observed in the international context and the manifestation of these and other trends within the food industry. From aconsumer perspective, improved knowledge on the composition and function of foods has contributed to many of the changes in these qualities. This is due to an increased demand, and a subsequent response from the food science industry. Science based education on health could continue these positive changes in nutritional behaviour (demand), and continue the development of healthier food options provided by industry (supply).

Changing agents in this process should be seen as believable and trustworthy. In the case of health and well being, health influencers, such as scientists and medical practitioners, are seen as the key towards change.

Keywords: Consumer education; Redmeat; Nutrition; Health

1. INTRODUCTION

In 1992, the International Conference on Nutrition identified strategies and actions to improve nutritional well-being and food consumption globally (Clay, 1997). Through these, governments were called upon "*to provide advice to the public by disseminating, through use of mass media and other appropriate means, qualitative and/or quantitative dietary guidelines relevant for different age groups and lifestyles and appropriate for the country's population*" (FAO/WHO, 1992).

Recently, non-governmental bodies all over the world are increasingly contributing to the aim of better health for all, and are devoting time and funds towards consumer education. Consumer health education projects, often called social marketing campaigns, aim to promote awareness of the health and nutritional advantages of foods, based on current composition data, in an effort to change behaviour. As examples of the global relevance of evidence-based consumer education, both the Nutrition Working Group of the International Dairy Federation (IDF) (representing more than 60 countries), as well as the International Meat Secretariat (IMS) (representing more than 30 countries), disseminates current research findings to both the scientific community and the consumer. Through

both these working groups the research findings are used to inform the scientific community, aiding in the identification of research needs for the food industry and providing perspectives to add value to food products in the context of improving human nutrition. Furthermore the information is shared during events or via specific newsletters and publications to the general public.

2. CONSUMER EDUCATION PROGRAMMES

Nutrition education is used in many countries to improve the nutritional wellbeing of target populations. The general objectives of such programmes are to enable the target population to make the best use of existing food resources, and to familiarize them with country specific food based dietary guidelines for good health and nutrition (FAO, 2001). Broad goals of Consumer Education Programmes (CEPs) and actions needed to increase effectiveness include: 1) To bring about appropriate and meaningful changes in knowledge, attitudes and dietary practices which will result in improved nutritional status; 2) To empower consumers to have full knowledge about the nutritional qualities of the foods they consume; and 3) To protect the consumer from incorrect commercial information with respect to the nutritional qualities of foods. To increase effectiveness of such a campaign, they need to be well planned, implemented, monitored and evaluated; consider social and cultural relevance of the messages and the way in which it is delivered; the programme design should reflect understanding of the social, economic and cultural determinants of current food, health and nutritional behaviour. As a strong new trend, the use of social marketing methods would strongly be recommended (FAO, 2001).

Consumers should have the knowledge, as well as the means, to make informed food choices. Different socioeconomic groups should also be targeted differently. In developed countries, where more individuals suffer from obesity than those suffering from under nutrition (WHO, 2004; CDC, 2006), there is an increased awareness of the consequences of dietary choices and actions, and the risks associated with bad dietary habits. Global trends observed included greater focus on health, convenience, environmental impact and indulgence. However, it is recognised that consumers are motivated by different drivers when finally consuming food, which is easily explained by the growth in worldwide obesity. Food consumption behaviour goes hand in hand with availability and affordability, often irrespective of the knowledge of healthy food choices. Another complicating factor which should not be ignored is the surge in contradictory messages related to health and nutrition. The credibility of information sources thus strongly comes into focus.

Developing countries are often subjected to the double burden of persisting undernutrition in the midst of the growing epidemic of obesity and non-communicable diseases (UN/SCN, 2004; FAO,

1996; Steyn & Temple, 2008). Africa is the only developing region in the world with increasing numbers of underweight and stunted pre-schoolers (UN/SCN, 2004) and hungry people (FAO, 1996). The burden of non-communicable disease on the African continent (and in SA) continues to demonstrate the potential for improvement in health (Steyn & Temple, 2008). The understanding, skills and motivation to make the best food choices available, are required along with sufficient sources to produce or purchase food (FAONewsroom, 2005).

3. A MUTLI-DISCIPLINARY APPROACH TO CONSUMER EDUCATION PROGRAMMES

3.1. The message and the medium

With the surge in contradictory media messages related to health and nutrition, to ensure success in any consumer education programme, nutrition information should form the basis. Messages communicated to the target audience should be:

- Current
- Scientifically correct
- Translated into understandable messages
- Communicated
- Simple and consistent

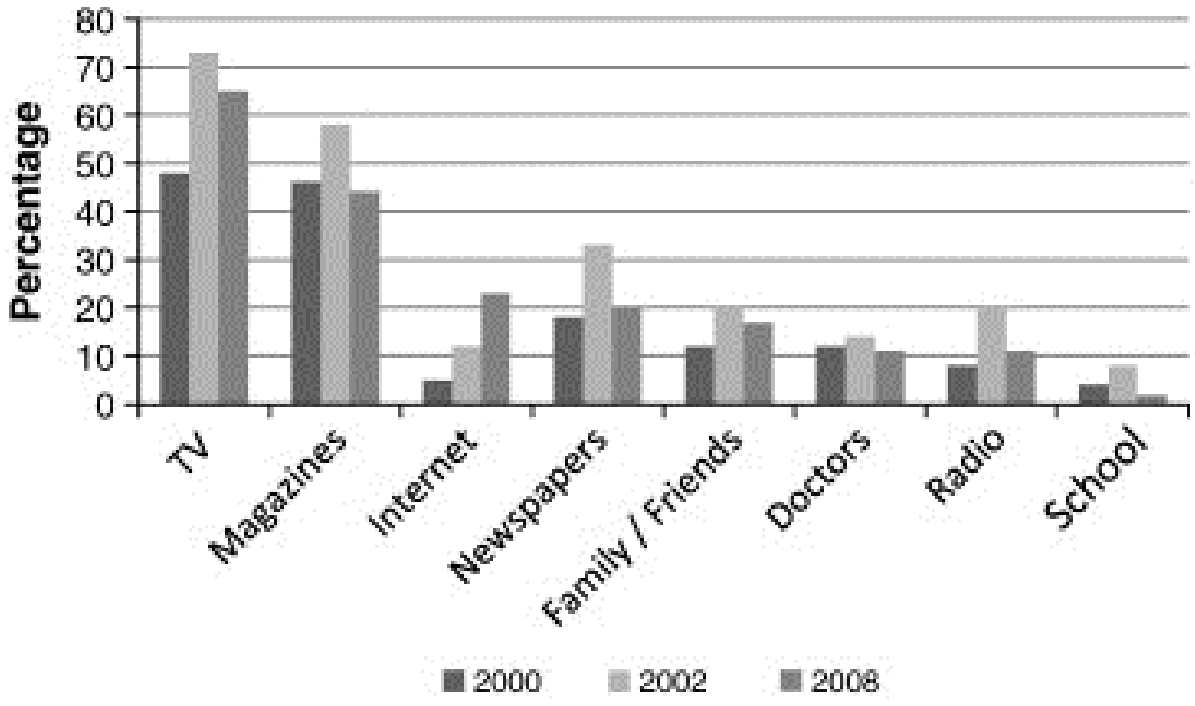

Fig. 1. The most popular sources of nutrition information over time (American Dietetic Association, 2008).

Agents of change in this process must be believable and trustworthy. According to the American Dietetic Association (2008), the most popular sources of information are among the least credible. Television is the most popular source of nutrition information, followed by magazines, the internet and newspapers (Figure 1). The most credible sources of information are considered to be registered dietitians and nutritionists (78 %), doctors (61 %) and nurses (57 %) (Figure 2) (American Dietetic Association, 2008). Within a local context, 1 250 South African households were interviewed and the most often used sources of health information were food packaging, magazines and TV adverts, whereas the most credible sources are considered to be doctors, dieticians and nurses, followed by on pack labelling (Kellog's Nutrition Advisory Science, 2008). The approach of the IDF and IMS to disseminate research findings to both the scientific community and the consumer ensures that the messages which the consumer receives in the public domain are reiterated by the health professional which they trust.

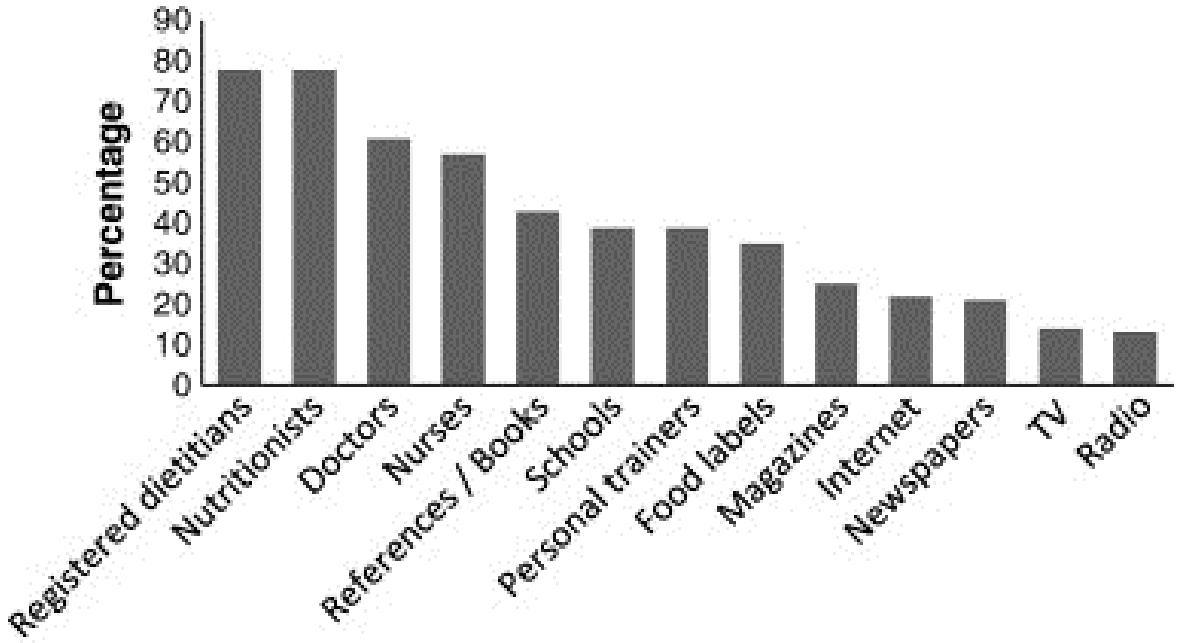

Fig. 2. The sources of nutrition information which are considered most credible (American Dietetic Association, 2008).

3.2. A science-based foundation

The process of behavior change towards better nutrition needs to follow a multisectoral approach, with the foundation being science based (Figure 3). As the consumer-driven trend towards health is affecting changes within the entire food chain, from food research food product formulation, and

retail activities, (consumer driven) emphasis is placed on communicating these findings to the consumer (science driven) to further their notion towards correct food choices (Figure 4).

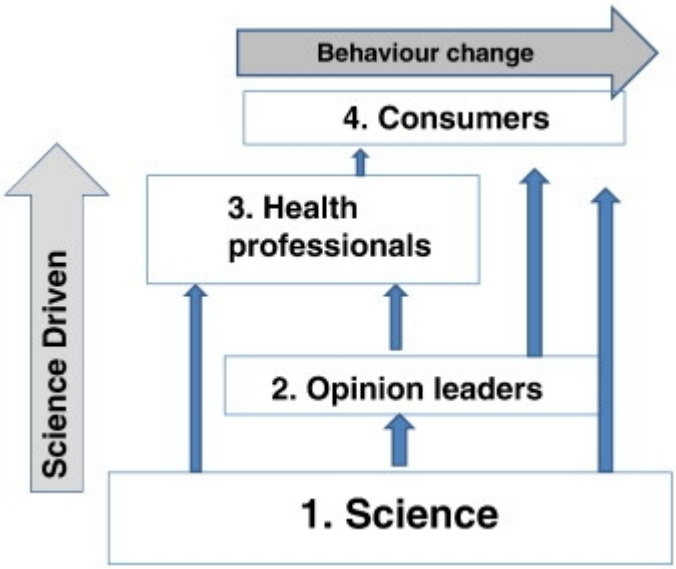

Fig. 3. Science based education strategy for nutrition communication in the aim of behavior change.

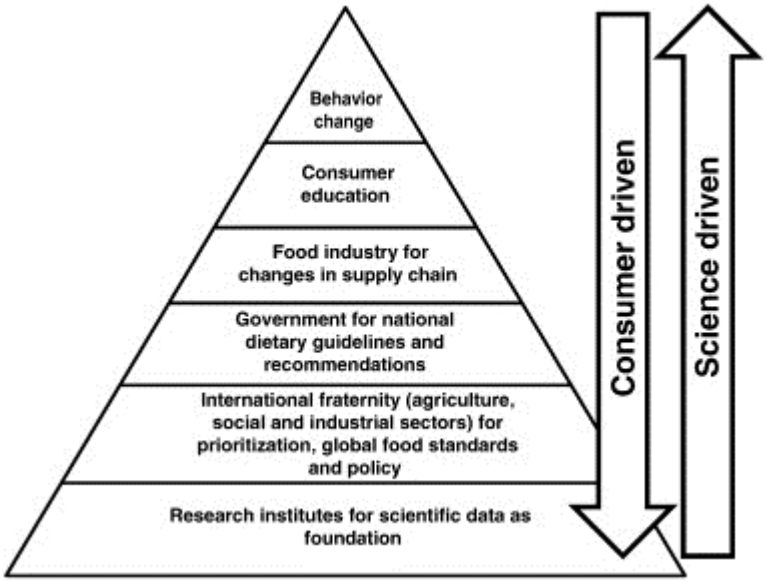

Fig. 4. Science driven integration between multiple sectors for behaviour change towards better nutrition (Schonfeldt & Gibson, 2010).

3.3. An example of such an approach followed is the Consumer Education Campaign of the Sheep Meat Marketing Forum

There is ample current scientific research indicating that red meat can be consumed daily. However, based on epidemiological studies, obesity and high saturated fat intake from animal products has a

positive association (Biesalski, 2005; Chao, Thun, Connell, McCullough, Jacobs, Flanders, Rodriquez, Sinha & Calle, 2005). This has led to the consumption of smaller portions less frequently, in an aim to restrict fat intake. Meat plays an integral role in global eating (Grunert, 2006) and the nutritional attributes of meat, which provide a major proportion of consumer requirements for protein, vitamins and minerals, are highlighted in work in many countries (Breidenstein, 1987; Johnson, 1987; Robinson, 2001). These studies also reflect the substantial changes over time in the composition of carcass meat, especially reduction in the amount of fat both on the carcass itself and after trimming in the shop or at home, as well as in the effect of changes in processing and preparation methods (Chan, Brown, Lee & Buss, 1995; Higgs, 2000). The percentage fat present in New Zealand beef carcasses have decreased from 23.3% in 1981 to 7.1% in 1997 (EuroFIR, 2008). In South Africa similar results have been found with the average fat content of target grade beef decreasing from 32% in 1949 to 18% in 1981 to 13% in 1991 (Naudé, 1994). These changes in the fat content can be assigned to the increase in consumer demand for leaner red meat products, and a response by the science fraternity by adopting animal diets, breeding techniques, other food science activities post mortem, and preparation techniques.

Although meat is a favourite and popular food in the diet of South Africans (Scholtz, Vorster, Matsego & Vorster, 2001), the popularity of red meat locally and abroad is consistently declining in favour of white meat as well as other non-meat proteins. An on-going campaign to promote the consumption of South African lamb and mutton among South African consumers was launched in 2007 by the Sheep Meat Marketing Forum on behalf of the Red Meat Industry Forum. The campaign sprung from an initial review at the time (2006) of the most recent research surveys on the consumer perceptions of red meat in South Africa. The critical factors important to the consumer, included the perception that South African lamb and mutton is high in fat, were highlighted, and served as a guide in the approach to the educational campaign. The campaign is based on current scientific composition data of South African lamb and mutton.

3.3.1. The science based foundation of the campaign

Nutritional data on the composition of South African lamb and mutton were determined by the Agricultural Research Council (ARC) Irene. The main findings of the study showed that South African lamb and mutton are substantially leaner and thus contains less fat compared to the values listed in the South African Food Composition Tables of the Medical Research Council (MRC), which are derived from the United States Department of Agriculture. Based on the new data, South African

lamb and mutton contains on average only 9.01 % and 10.8 % fat respectively, compared to 21.6 % fat recorded in the MRC tables (Figure 5).

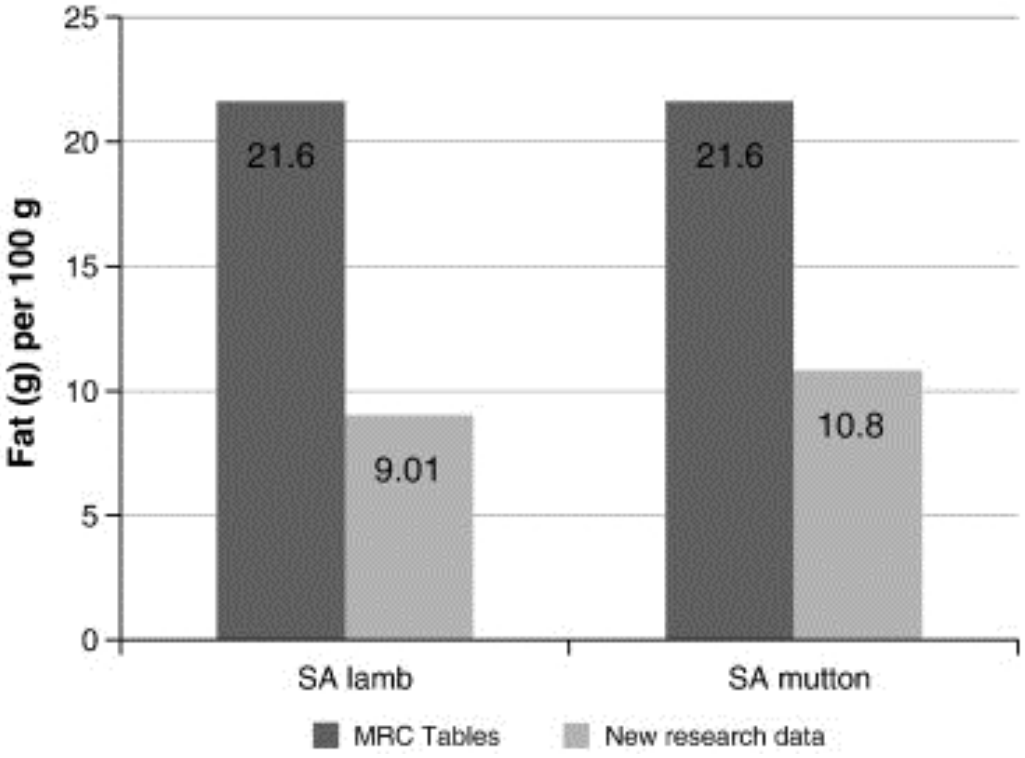

Fig. 5. Changes in fat content of lamb and mutton.

3.3.2. The focus of the educational campaign

The campaign is aimed to educate South African consumers on the role of South African lamb and mutton in a balanced diet, based on scientific results. The campaign consist of two parallel streams of education deployed, namely to the health professionals and secondly directly to consumers (Table 1).

3.3.3. Lessons learned

For any education campaign to be credible and trustworthy, the latest results from continuous scientific studies are required. In line with this requirement, in 2010 more than double the amount of funding was spend on research within the red meat industry, than on direct educational activities.

Table 1. Strategy of the ConsumerEducation Campaign of the Sheep Meat Marketing Forum.

	Health professionals	**Consumers**
Why	Considered one of the most important and credible sources of nutrition information	Consumers are today very interested in the foods they consume
Who	Health professionals, e.g. medical doctors, nutritionists and dieticians	Consumers
How	Support and stimulate continued scientific research Disseminate research results in the form of booklets, leaflets and other publications Distribution of information leaflets through their professional organizations Advertorials, pamphlets and peer reviewed articles in scientific/medical journals Participation at scientific conferences in the form of presentations, scientific posters or exhibitions All information available electronically at http://www.healthymeat.co.za	Educational posters, information pamphlets and recipe booklets (containing recipes and health related information) are distributed via retail partners, the Department of Education, butchers etc. Advertorials in popular magazines and newspapers All information available electronically along with recipes at http://www.healhtymeat.co.za
What	SA lamb and mutton contains on average less than 10% fat Nutrient density Bioavailability of iron and zinc from animal sources A food based approach to alleviate iron deficiency Updates on the health properties of ruminant trans fats Portion sizes	Positive changes in the fat content of SA lamb and mutton Nutrients in redmeat The health effects of different fats Redmeat as part of a balanced diet A food based approach to alleviate iron deficiency Portion sizes Selecting and preparing redmeat prudently

Sound food composition data is the first requirement for this type of educational campaign. This composition data need to be continually updated and extended, as:

- Analytical methodologies improve (e.g. trans fats and bioavailability)

- Products change (e.g. natural pastures vs. corn fed)
- New cutting practises are implemented (results in difference in description of cut and therefore composition)
- Changes in cooking trends (e.g. trimming prior to cooking and tomato based vs. oil based marinades)
- Shifts in carcass composition (e.g. consumer demand for leaner carcass meat with less visible fat)
- Shift in consumer demand for slaughter age (e.g. consumer demand for lamb has shifted the market to almost exclusively lamb in 2010 translating into >85% of production)

The dynamic nature of red meat and red meat products, changing in nutrient content all the time according to consumer preferences, requires concurrent communication of the research findings to health professionals and consumers. Furthermore, the challenge to the food scientist is to deliver a value added product that falls within the scope of what the health professional communicates, and what the consumer indemands.

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